AGRICULTURAL NEWS

VOL. 17 - NO. 1

This publication contains information regarding new developments of interest to agriculture, based on laboratory and field investigations by the Du Pont Company. It also contains published reports of investigations at agricultural experiment stations and other institutions to which the Company's products and other services of agricultural interest.

DU PONT

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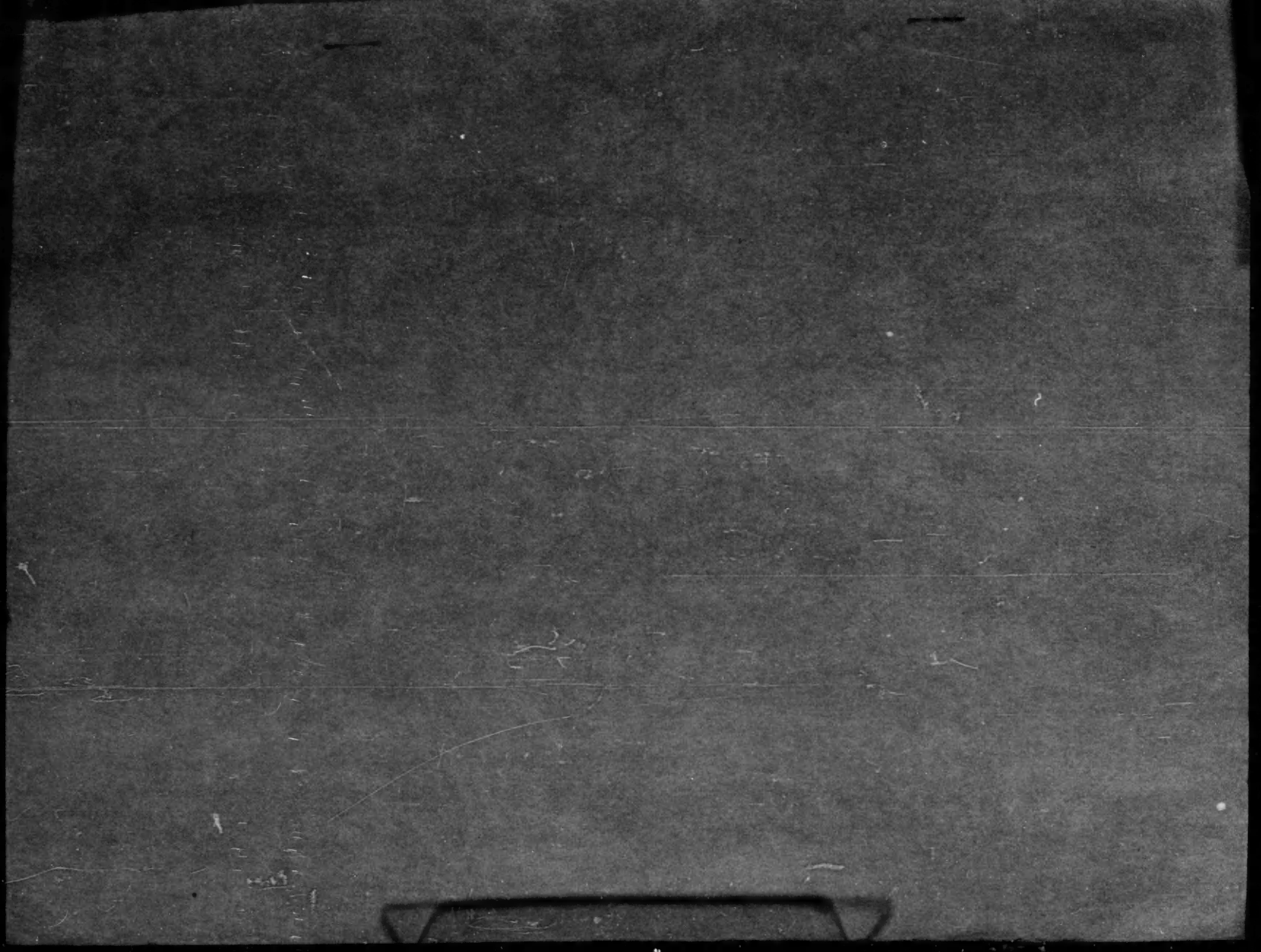

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CONTENTS

	Page
More Cotton, Wool, Other Fibers Now Being Used	2
Research Helps Improve Existing Products	2
Retained Earnings Important to Small and Large Businesses	3
We May Count On Answers Being Found	5
Suggestions On How to Choose and Use Pesticides Properly	7
"Igloo" Tent Made of Vinylite-Coated Nylon	8
White Pine Blister Rust Controlled	9
Light-Weight Nylon Fishing Nets Superior to Present Gear	10
Du Pont Acquires Farm Near San Jose for Research Work	11
County Agents Show Farmers How Explosives Speed Ditching	12
Nylon Leaders of 50- and 60-Pound Tests	12
Urges Use of DDT to Stop Spread of Sweetclover Weevil	13
Story of "Two-Sixty-Two" Feed Compound In Booklet Form	14
Research Results Now Available to Rice Growers	15
Business Concerns Treat Planting Seed Commercially	17
Ten Commandments of Safety	18
How to Have More Fun With Your 22 Rifle	19

CONSIDERABLY MORE COTTON, WOOL, AND OTHER FIBERS NOW BEING USED IN THE UNITED STATES THAN EVER BEFORE

"The per capita consumption of all textiles in the United States has steadily increased. For example, in 1920, when rayon was a negligible factor, each American used about 27 pounds of cotton and wool per year. Currently, each American uses some 33 pounds a year, in addition to 7 pounds of rayon and a pound or two of other fibers. He uses more, despite the fact that quality in all lines has improved to a point where every single pound gives more wear than it did even a few years ago!"

RESEARCH HELPS FIND OUT HOW TO IMPROVE EXISTING PRODUCTS AS WELL AS DEVELOP NEW AND EXCITING ONES

"People often think that research is confined to the development of new and exciting products that spring into full bloom before a startled world. Sometimes they are right. But the fact is that a great deal of industrial research work is in the less spectacular but equally important field of finding out how to improve an existing product, and in developing better and less costly ways of producing it."

--Excerpts from address of Henry B. du Pont, a vice president of the Du Pont Company, at luncheon of Buffalo Chamber of Commerce.

Agricultural News Letter (Du Pont)
Vol. 17 No. 1 January-February, 1949

HENRY B. DU PONT, COMPANY VICE PRESIDENT, SAYS RETAINED EARNINGS JUST AS IMPORTANT TO SMALL BUSINESSES AS THEY ARE TO LARGE ONES

Henry B. du Pont, a vice president of the Du Pont Company, recently used a couple of common farming expressions to explain why and how earnings retained by business concerns -- large and small -- are invested in new plants and equipment.

Speaking before the Buffalo Chamber of Commerce, Mr. du Pont termed retained earnings the "seed money" which provides the industrial "harvests" -- the plants, jobs, and machines -- of the future. "Seed money," he emphasized, is just as important to small business as to large, "just as essential to a hardware store or to a taproom owner as it is to a manufacturer of durable goods."

More than half the increase in the total U.S. investment in manufacturing plants and equipment since 1929 is represented, he said, by "earnings retained in the business."

Profits Must Be Large Enough to Allow for Expansion

"Profits," he said, "must be large enough not only to provide a reasonable return to stockholders, but, in addition to allow for expansion and growth. For no business can stand still; it either goes forward or it goes backward.

"The large manufacturer may use his money for a research program costing millions, and the taproom proprietor to install a television machine, but the principle is the same."

Worker, Public, and Nation Profit When Business Profits

When American business profits, the worker, the public including the farmer, and the nation profit, he reminded his audience. The worker profits, he said, because he "enjoys a higher standard of living, shorter working hours, and more opportunity than workers under any other system or in any other nation."

The public profits, he went on, since "nowhere else in the world has any public so much purchasing power and so much available to it, in goods, in freedom of choice, in liberty of action." The nation profits, he added, because "any nation is only as strong as its industry. The United States is the strongest nation on the face of the earth, with an industrial establishment which has accomplished miracles."

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Cites Rayon Industry To Show Interdependence of All Sizes of Businesses

Demonstrating the interdependence and parallel growth of all sizes of business, Mr. du Pont cited the history of the rayon industry. He said the rayon industry and the textile industry which fashions yarn into finished garments are made up today of 15 yarn manufacturers, 150 weaving mills, 575 rayon converters -- "mostly small firms, some of them one-man enterprises" -- 585 dyeing and finishing concerns, approximately 3,500 garment manufacturers, and some 9,000 retail outlets.

"What we have here is a pyramid made up of more than 13,000 separate business enterprises of all ranges of size, each element depending on the other, having a total employment of one and one-quarter million workers," he said.

Less than 30 years ago, Mr. du Pont went on, rayon was "shiny, it was weak, it literally bagged at the knees." Today, he said, rayon's shine has been eliminated, its filaments, once ten times coarser than silk, are finer than silk, and its strength has been doubled. At the same time, he pointed out, its price was cut to less than one-fourth of what it had been.

"I think it is fair to say that the job of bringing rayon to its present state could only have been accomplished by concerns with very large resources. The modern research effort such as went into the rayon development requires large amounts of capital. None but the large organization can engage in research of this order."

Du Pont Company Alone Has Spent Over $30,000,000 On Rayon Research

"Our company," he said, "which is only one part of the total rayon industry, has spent more than 30 million dollars on rayon research since the beginning. Other firms spent comparable amounts.

"The risk, also, was of equal dimensions, for in the beginning the outlook depended mainly on theoretical possibilities. Only an organization which could afford to take that risk would put up money to do the job.

"Along with research goes a very heavy investment in plants and equipment, for the secret of low-cost operation lies in the development of intricate and costly equipment to permit continuous, economical operation."

Mr. du Pont emphasized that "the total investment in yarn-producing properties of the whole rayon industry is today approximately $600,000,000, not including working capital. The other large mass-production industries such as those producing automobiles, refrigerators, electrical appliances, and many other things which contribute to this nation's high standard of living could not exist without a huge capital investment."

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"SO LONG AS THERE IS NO LIMIT TO MAN'S IMAGINATION NOR INTERFERENCE WITH HIS FREEDOM TO THINK, WE MAY COUNT ON THE ANSWERS BEING FOUND!"

That is the forward-looking prediction in a recent speech about "New Methods of Weed Control in Vegetables," made by L. W. Kephart, senior agronomist in the U.S. Bureau of Plant Industry, Soils, and Agricultural Engineering, before the Vegetable Growers Association of America in Baltimore.

Mr. Kephart made it clear that he does not think that any of the fifty or more methods now being suggested to control weeds in vegetables with chemical herbicides "are as yet sure-fire," but he made it equally clear that, "with the large number of excellent technical workers concentrating on this problem, it is inconceivable that some fine new practices will not come out."

He pointed out that "the fungicide and insecticide people have been working at their trades for 50 years or more, and still don't know all the answers on disease and insect control. So, we must not be impatient if the weed-control specialists do not achieve perfection in eight or ten."

Actually, he continued, the principal cause of confusion regarding weed killers "is the same as in other fields of chemistry these days -- the large number of compounds with jaw-breaking names that fly at us from the news reports, the bulletins, and the advertising pages. Which, one asks, of these strange new materials is any good, and how much better is it than the things I have used heretofore?"

Labels Must Describe Contents of Packages Accurately

Mr. Kephart said that "by an amendment to the Federal Insecticide Act, Congress has required that the labels on the packages of weed killer describe the contents accurately. Before a label can be used it must be registered with the Department of Agriculture, and the Department will not issue a registration until it is satisfied that the claims on the label can be substantiated."

He pointed out, however, that this "still leaves a very broad field for misunderstanding. Just because a label says that the contents of the package will kill thistles does not mean that it will always do that, or that it would be an economical thing to do. It is up to you to find out whether it will kill thistles under your conditions and with less trouble and expense than some other method."

Continued on next page

Prospects for Future Extremely Bright

After discussing in detail results of experiments and tests with chemical control of weeds in different vegetable crops, Mr. Kephart said that "on the whole I think the prospects are extremely bright. Scarcely a week passes that someone does not suggest a new chemical compound that their tests indicate has promise for weed control. The problem then is to find the precise place where it fits best. From what has been said, you can see that each crop, each region, each soil, and almost each community is a separate problem with different requirements for each."

Date When Answers Are To Be Found Cannot Be Predicted

The speaker felt that it is unlikely that there will ever be one over-all herbicide that will do all the many kinds of weed control that need to be done, "any more than that there is one over-all insecticide or a universal medicine."

In answering such questions as why there is no chemical that will kill the weed seeds in the soil nor "a magic nostrum that will sterilize or fumigate soils successfully," the federal scientist explained that "at the moment there is a rather imposing list of substances that will do that job incompletely, ... but none does a complete job and all cost far too much to be practical on a large scale."

Believes Development of Over-All Herbicide Unlikely

"Still, we thought only ten years ago that atomic energy was something for the Sunday supplement readers exclusively, so I would be the last to say we will not be able, within another ten years, to devitalize the seeds in soil."

It was at this point in his talk that Mr. Kephart concluded with the note of optimism quoted in capital letters at the beginning of this item, ending his remarks with the caution that the exact date when we will find the answers to the questions he had raised "is something we cannot predict."

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Agricultural News Letter (Du Pont)
Vol. 17 No. 1 January-February, 1949

TEN SUGGESTIONS ON HOW TO CHOOSE AND USE PESTICIDES PROPERLY

Ten suggestions designed to help growers choose and use pest-control chemicals properly have been prepared by the Agricultural Insecticide and Fungicide Association, of which the Grasselli Chemicals Department of the Du Pont Company is a member. The Association says that these simple rules, if followed, will mean more effective and safer use of such materials. Here are the ten suggestions:

1. Do some advance thinking about your pest problems. Consider the possible insects or diseases in relation to your specific crops or animals and their surroundings.

2. Select a reliable manufacturer as your source of supply and discuss your particular problems with an accredited representative. Do the same with federal and state agricultural experts in your locality.

3. Read up on your problem and learn to distinguish recommendations by competent authorities as against mere reports of isolated research results or unofficial suggestions.

4. Find out about the possibilities of secondary problems, such as residues and off-flavors. Consider timing of applications, dosages, methods of residue removal and so on as means of overcoming secondary problems.

5. Remember that there are many long-established as well as new chemicals for controlling pests. Compare their relative merits and weaknesses. There are many uses for all pesticide products. There are also some unsolved problems still being investigated by the industry, and answers will be made as soon as possible.

6. All economic poisons in interstate commerce must be registered under federal law. The federal law, as well as many state laws governing sales of pesticides, are for your protection. Be sure the products you buy comply with all regulations.

7. Determine the type of application equipment you will need and investigate the possibilities of damage to neighboring crops from drift. Accuracy of dosage is essential with modern chemicals.

8. If your food crop is intended for processing, discuss your control program with the food processing company. Processors know how to handle products on which many kinds of sprays and dusts have been used. Do not make it necessary for them to reject your product.

Continued on next page

9. Read labels and accompanying literature carefully. Read the warnings and directions--and OBEY them. Do not overdose. All pesticides should be handled with care. Some materials may require the use of masks or gloves during application. The industry, in cooperation with federal and state agencies, has gone to much expense and trouble to give you complete warnings and precautions aimed at one thing: your protection.

10. Keep a record of your operations: material used, dosage, date of application and method, crops, weather conditions, results and any other information that may be helpful in planning your future operations.

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TWO-MAN "IGLOO" TENT MADE OF VINYLITE-COATED NYLON

A new two-man pup tent that will keep out water, wind, bugs, and snakes is now being made of nylon fabric.

This new tent, called the "Igloo," is being fabricated from a vinylite-coated nylon material by C. H. Masland & Sons, Carlisle, Pa., primarily for sportsmen who want a strong yet light-weight shelter for rugged outdoor use. As the name implies, the tent is dome shaped with a perimeter of 25 feet, 8 inches. It weighs only 9½ pounds, and fits easily over an aluminum frame, making pitching and striking the tent a matter of a few minutes.

Agricultural News Letter (Du Pont)
Vol. 17 No. 1 January-February, 1949

WHITE PINE BLISTER RUST CONTROLLED BY CHEMICAL ERADICATION OF CURRANT AND GOOSEBERRY BUSHES, HOST PLANTS OF THE DISEASE

Studies of methods for chemical eradication of currant and gooseberry bushes in western white pine forests were conducted by the U. S. Bureau of Plant Industry from 1922 to 1933, and have been continued by the Bureau of Entomology and Plant Quarantine since 1934. Successful methods have been developed for destruction of these host plants through

1. Sprays applied to the foliage, and
2. Application of a dry or liquid chemical to the crowns of woody-type plants after cutting off their tops.

Chemical eradication of currant and gooseberry bushes, alternate host plants of the blister rust that menaces thousands of acres of white pine forests in the west, is being used extensively to lower costs and improve the effectiveness of control of the disease.

These plants of the genus Ribes cannot be economically removed by hand pulling and grubbing. In fact, use of chemicals on such bushes in the vicinity of white pine has been found to be the only effective means of controlling the disease.

"This achievement is the result of field application of research, and is reported as a noteworthy development," says J. F. Martin in "Research Achievement Sheet No. 98-(E)," recently issued by the U. S. Department of Agriculture's Research Administration.

Herbicides Being Widely Used In Western Forests

As early as 1932, a study was begun on the application of chemicals to the severed crowns of large rock-bound plants and to plants difficult to dig up because of their rooting habits. Methods, dosages, and types of herbicide for use on 16 species of ribes were worked out, and are being widely used in California, Colorado, Idaho, Montana, Oregon, Washington, and Wyoming.

Continued on next page

Among the chemicals used successfully since 1944 is ammonium sulfamate, the active ingredient in Du Pont's "Ammate" weed killer. Then in 1947 concentrates of amine and ester formulations of 2,4-D came into use. Mr. Martin predicts that 2,4-D will be used extensively in the future for eradication of decapitated plants "because of the small quantity of 2,4-D needed to kill a susceptible ribes plant."

"The chemical method used to destroy R. petiolare is conservatively estimated to have saved $270,000 in eradication costs," he says. "Moreover, it prevented serious pine losses that could not have been avoided had it been necessary to use the slower, less efficient, hand-pulling methods. Further savings have resulted from the use of chemicals in treating decapitated ribes plants. The 2,4-D spray program for the single year 1947 is estimated to have saved more than 8,000 man-days of labor."

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LIGHT-WEIGHT NYLON FISHING NETS SUPERIOR TO PRESENT GEAR

Vigorous testing under actual fishing conditions on the West Coast of heavy-duty nylon fishing nets, strong yet pliable, gave even better results than anticipated. Use of the light-weight nylon nets, manufactured by Brownell & Company, Moodus, Conn., eliminated the need for the old method of hauling with block and windlass. Hauls were made in much less time than formerly. Fishing was possible in difficult locations where the present heavy, cumbersome gear could not be used.

John C. Jackson, president of John C. Jackson, Inc., Friday Harbor, Wash., who conducted the experiments, reports: "The nets we formerly used took 122 pounds of netting and 139 pounds of tar. The new nylon nets come dyed a fade-proof black, and the complete net weighs only 33 pounds.

"The fishermen here are very much enthused over the nylon nets -- in the way they handle, soft on the hands, and in the fact they will not rot or mildew, thus requiring no special care or preservatives. The salmon seiners who have seen our nets believe that nylon is readily adaptable to replace their present heavy gear, with about one-eighth the weight in webbing alone. The cost of these nets has been very close to the cost of our previous nets."

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Agricultural News Letter (Du Pont)
Vol. 17 No. 1 January-February, 1949

DU PONT ACQUIRES FARM NEAR SAN JOSE, CALIF., FOR RESEARCH WORK

The Du Pont Company has acquired a farm in the Santa Clara Valley of California for experimental work with agricultural chemicals.

Located five miles west of San Jose at Cupertino, the farm will be operated by the Grasselli Chemicals Department, and has been named the "San Jose Experimental Station." The location was chosen to permit testing of new Du Pont agricultural products in soil and climate representative of central California's greatly diversified fruit and vegetable crop lands. This modern test farm will expedite research with chemicals for the control of insects, parasitic diseases, and weeds adversely affecting plants and crops, emphasizing development of formulations especially suited to California. The already established Du Pont field laboratory at Yakima, Washington, will supplement work carried out at San Jose.

Millard C. Swingle, Western area supervisor of Agricultural Product Development for the Grasselli Chemicals Department, is in charge of the San Jose Experimental Station. Mr. Swingle received his bachelor of arts degree from Ohio State University in 1926, and his master of science degree in entomology from the University of Maryland in 1928. From 1928 to 1943 he was with the United States Department of Agriculture. He joined the Du Pont Company in 1943 as entomologist at the Pest Control Research Laboratory in Wilmington, Del. He was transferred to California in 1947, and in 1948 he assumed his present position with headquarters at Baldwin, California, later locating in San Jose.

Matthew A. Vogel is in charge of the Yakima field laboratory. Mr. Vogel received his bachelor of science degree at the University of Illinois in 1930, and his master of science degree in entomology at Ohio State University in 1932. After working for the United States Department of Agriculture and the states of Illinois and Ohio, he began research work on insecticides for the Grasselli Chemicals Department at Wooster, Ohio, in 1937. He was transferred to Yakima in 1946, and became a member of the Agricultural Product Development Section after it was created in April 1948.

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COUNTY AGENTS SHOW FARMERS HOW EXPLOSIVES SPEEL DITCHING

County agricultural agents throughout the United States are giving much valuable advice and assistance to farmers in the use of explosives to blast drainage ditches, now that agricultural dynamite is again in plentiful supply.

For instance, County Agent H. K. Anders at Williamsport, Lycoming County, Pa., has aided about 15 farmers in the use of such explosives during the last two years. He has convinced the farmers of his county, by these demonstrations, that blasting reduces the amount of labor needed for ditch work, and that it is especially adapted for water-logged land.

One of the outstanding demonstrations conducted by Mr. Anders was on the farms of Oscar Shirley and Clark Brown, neighbors in Lycoming County, where the water channel was deepened with explosives. Vegetation had caught silt to raise bottom land on either side. Sidehill water that flowed continuously spread out to create about 40 acres of swamp. The county agent helped blast a new channel 1,000 feet long.

Where soil was soggy, dynamite sticks were put 14 to 18 inches apart. Charges were placed 9 inches apart where dry spots were crossed to take bends out of the channel.

The new waterway is 4 feet deep at the center, and 6 feet across at the top. Dirt was well distributed over a space several yards wide along either side of the straightened channel.

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NYLON TROLLING AND CASTING LEADERS IN 50- AND 60-POUND TESTS

Fishing-tackle manufacturers are now producing ready-to-use trolling and casting leaders made of nylon in 50-pound and 60-pound tests for striped bass, channel bass, tarpon, sail fish, and many other salt-water game fish. Snelled hooks in the heavy pound tests are also available.

The Du Pont Company recently began commercial production of the nylon filament in the 50-pound and 60-pound tests to meet certain requirements in leader material of salt-water sport and commercial fishermen and charter-boat captains.

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Availability of monofilament in the heavier diameters will enable all salt-water fishermen who frequently use 6-, 10-, and 15-foot leaders for certain types of fishing to take advantage of nylon's strength, flexibility, and resistance to rust and kinking.

The new diameters will be found in tackle stores and sporting goods shops all over the country in 10-yard and 100-yard coils. This means that fishermen now have a choice of continuous length nylon leader material in pound tests ranging from 2 to 60 for all types of fishing.

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ENTOMOLOGIST URGES USE OF DDT TO STOP SPREAD OF SWEETCLOVER WEEVIL

Farmers in the Corn Belt may have to change to some new type of crop rotation unless they launch a fight against the sweetclover weevil, which recently entered this country from Canada.

The chemical weapon recommended for use against this invading insect is DDT insecticide.

The sweetclover weevil has steadily advanced south throughout large sections of the Corn Belt, and has damaged some fields severely as far south as the Missouri River in South Dakota and as far east as Illinois.

"This weevil notches the leaves of sweetclover, and kills young plants before they get started in the spring," says Dr. J. A. Munro, entomologist at the North Dakota Agricultural Experiment Station, at Fargo.

Dr. Munro reports that in test dusting with 20 to 25 pounds of DDT to the acre in mid-April, "fairly good control was obtained." He found no difference between 2 per cent and 5 per cent dust.

The North Dakota scientist believes the best time to dust is when foliage is well started on second-year sweetclover plants, when there is a "maximum number of weevils and little foliage to cover."

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STORY OF "TWO-SIXTY-TWO" FEED COMPOUND IN BOOKLET FORM

The story of how cattle, sheep, and other animals with four stomachs can change simple nitrogen compounds in their feed into complex proteins is told in a new educational booklet issued by Du Pont.

"This quite amazing process of conversion takes place in the paunch or rumen where uncountable billions of tiny microscopic plants (bacteria) grow on nitrogen compounds, one of which is supplied by a new kind of ingredient -- Du Pont's 'Two-Sixty-Two' feed compound," the booklet explains.

It points out that "Two-Sixty-Two", designed for use by feed manufacturers in commercial mixed feeds, protein supplements, pellets, and complete rations, contains 42% nitrogen supplied by a chemical combination of ammonia and carbon dioxide formed under high pressure and temperature. Chemists call this combination carbamide, but it is popularly known as urea. One pound of "Two-Sixty-Two" is equivalent to 2.62 pounds of protein -- hence its name. In the formulation of mixed feeds, this product can be used by manufacturers to supply one-third of the total protein.

"Two-Sixty-Two", introduced by Du Pont during World War II at the request of the government to help alleviate the acute protein feed shortage, has been used satisfactorily to date in more than 2,500,000 tons of commercial feed for dairy cattle, beef cattle, and sheep.

The vast amount of information now available on the use of urea as a source of protein for ruminants is directly applicable to "Two-Sixty-Two." The numerous reports on the results of the extensive research work with urea for this purpose have been summarized by the Ammonia Department of the Du Pont Company. A copy of this bibliography, along with a copy of the printed booklet on "Two-Sixty-Two", will be sent on request. Address: Editor, Du Pont "Agricultural News Letter," Wilmington 98, Del.

Agricultural News Letter (Du Pont)
Vol. 17 No. 1 January-February, 1949

RESEARCH RESULTS WITH CHEMICAL SEED DISINFECTANT, NITROGEN FERTILIZERS, AND WEED KILLERS NOW AVAILABLE TO RICE GROWERS

Utilization of findings of recent research with three different kinds of agricultural chemicals is resulting in larger yields of high-quality rice crops for many growers in the 1,500,000-acre rice-growing areas of Louisiana, Texas, Arkansas, and California.

This new information is based on tests and demonstrations covering chemical treatment of the seed before planting, nitrogen fertilization at planting time, and application of 2,4-D selective weed-killer sprays after the crop is up and growing.

Seed Disinfectant Controls Certain Fungous Diseases

Tests conducted by the Louisiana Agricultural Experiment Station show that "Arasan" tetramethyl thiuramdisulfide seed disinfectant and protectant, applied to the seed before planting, gives superior results in the control of seed-borne and soil-borne fungous diseases. Studies in Arkansas also indicate that appreciable increases in stands and yields can be obtained by such treatment.

The Louisiana workers, basing their recommendations on results of four years of carefully controlled experiments, advise growers to use about 1½ ounces of "Arasan" per bushel of seed, mixed thoroughly with the seed as a dust or 1 ounce of "Arasan" SF applied as a slurry.

The large-scale tests on various Louisiana farms at widely scattered points, with about 1,000 barrels of treated seed, confirm previous findings that substantial increases in stands of rice may be expected from seed treatment, especially of March and April plantings. Similar results were obtained in plot tests on the Rice Experiment Station at Crowley, La.

Many slurry treaters, which apply a special formulation called "Arasan" SF as a water suspension of the consistency of buttermilk instead of the conventional powder, are now in use for commercial treating in the rice areas of the South.

Research Shows "Uramon" Excellent Nitrogen Fertilizer for Rice

In a series of nitrogen studies at the Rice Experiment Station at Beaumont, Texas, in which 60 pounds of nitrogen per acre were applied to rice at planting time, highest yields were obtained from "Uramon" fertilizer compound.

Continued on next page

Two-year yield averages for "Uramon" plots were 63% above those from plots where no nitrogen was used. Four other sources of nitrogen used in the comparative tests gave increases of 58%, 55%, 38%, and 25%. A 100-pound bag of "Uramon" supplies 42 pounds of urea nitrogen, about the average acre application now being used in Texas and other rice-growing areas. However, in tests conducted by the Beaumont station, rates up to 240 pounds of nitrogen per acre have been profitable.

These results inspired some demonstrational tests in 1948, including top-dressing an 80-acre plot of rice with "Uramon" by airplane. Applied at the rate of 100 pounds per acre, the broadcast distribution from the plane was satisfactory, and response of the crop excellent.

The Texas research workers summarize the advantages of "Uramon" fertilizer compound for use on rice as follows:

"Uramon" produces large yields of rice.

Its slow nitrification rate produces a more prolonged growth response.

Its high nitrogen content (42%) makes airplane application very economical.

It is safely applied from airplanes.

Its adherence to the leaves of the rice plant does not cause burning of foliage.

Chemical Weed Control Now Standard Practice In Many Rice Fields

Research workers and rice growers recognize, as a result of their experiments and field use, the value of 2,4-D weed killers for control of weeds in rice. Proper use of this chemical generally reduces cost of production and increases yields.

Alligator weed, Mexican weed or birdeye, curly or frizzly indigo, indigo or coffee weed, arrowhead, red weed, and several of the sedges are controlled satisfactorily. While weed control resulted in an average increase of 5 barrels of rice per acre in a number of carefully controlled tests, yield increases vary with the amount of weed infestation and the degree of weed control.

A suitable spray form of 2,4-D, designed to give a minimum of drift in the air, has been formulated by Du Pont. Since all sprays can be carried by air currents, especially when applied by airplanes, and damage crops in nearby fields, Du Pont weed-control experts advise users to take every precaution to apply the spray in such a way as to avoid drifting or floating to crops growing in proximity to treated areas.

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Agricultural News Letter (Du Pont)
Vol. 17 No. 1 January-February, 1949

MORE THAN 7,000 BUSINESS CONCERNS NOW TREAT PLANTING SEED COMMERCIALLY WITH DU PONT DISINFECTANTS AND PROTECTANTS

Many farmers prefer to have their planting seed treated by commercial seed treaters than do the job themselves with homemade equipment on their farms.

As a result, commercial treating -- the application of seed disinfectants and protectants with rotary cylinder, gravity, spiral conveyor, or slurry-type machines by grain elevators, cotton gins, and peanut-shelling plants -- has become an important business in all sections of the United States.

More than 7,000 commercial concerns apply the various Du Pont seed-treating chemicals which are marketed under its trade-marks "Arasan," "Ceresan," and "Semesan." Crops treated commercially include cotton, corn, peanuts, wheat, oats, barley, rye, flax, sorghums, sugar beets, peas, beans and other vegetable seeds.

New Manual for Commercial Treaters, Seedsmen, and Processors

A new Du Pont booklet, "How to Treat", gives information for setting up a seed-treating operation. It has charts giving general recommendations for use of the chemicals to destroy seed-borne fungi, check soil-borne fungi, and help control certain other diseases that reduce the market value of untreated crops.

The various types of portable and stationary seed-treating machines now on the market, as well as the new slurry treater, are described and illustrated. In the slurry method, developed by Du Pont, the disinfectant is applied in a liquid suspension rather than as a dust or powder.

The manual says operators of elevators, gins, and other processing plants have found that such a treating service assures them a better quality crop to market, in addition to the profits from the treating service itself. And seedsmen satisfy their customers with treated seed that will generally result in a better stand and a better crop. They find also that seed treated according to state and federal recommendations is easier to sell than untreated seed, and that satisfied customers come back year after year.

NOTE: Copy of booklet, "How to Treat", will be sent on request. Address Editor, Du Pont "Agricultural News Letter," Wilmington 98, Delaware.

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TEN COMMANDMENTS OF SAFETY

The first requirement in using a rifle or shotgun is to know and practice the "Ten Commandments of Safety," says the Sporting Arms and Ammunition Manufacturers' Institute. These are based on the fundamental rules that every shooter should know his gun and how to operate it safely. They are:

1. Treat every gun with the respect due a loaded gun.
2. Carry only empty guns, taken down or with the action open, into your automobile, camp, and home.
3. Always be sure that the barrel and action are clear of obstructions.
4. Always carry your gun so that you can control the direction of the muzzle, even if you stumble.
5. Be sure of your target before you pull the trigger.
6. Never point a gun at anything you do not want to shoot.
7. Never leave your gun unattended unless you unload it first.
8. Never climb a tree or a fence with a loaded gun.
9. Never shoot at a flat, hard surface or the surface of water.
10. Do not mix gunpowder and alcohol.

Safety experts of the Institute offer this advice to young shooters, such as 4-H Club groups and Future Farmers of America, as well as individuals: "Why not talk over the 'Ten Commandments of Safety' with Dad. Nothing would offer him more convincing proof of your fitness to be trusted with a gun." Your county agricultural agent, teacher of vocational agriculture, and other qualified advisers can be of considerable help, too, expecially to organized groups.

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HOW TO HAVE MORE FUN WITH YOUR 22 RIFLE

By L. F. Livingston

Suggestions and directions for new and inexperienced shooters, youngsters particularly, and information designed to aid recreational and other groups interested in shooting, are contained in a new booklet, "More Fun With Your 22 Rifle," issued by the Sporting Arms and Ammunition Manufacturers' Institute.

The booklet is also designed to serve as a handbook of interesting gun games. It says that to have fun with a gun, the shooter must have a convenient and safe place to shoot. It explains how easy it is to select such a place--indoors or outdoors-- even in and near cities and towns. And it repeats the "Ten Commandments of Safety" (presented on the preceding page here). Over 20,000,000 copies of these safety rules have been distributed in leaflet form throughout the country during the past few years by the Institute.

Other features of the booklet include discussions of stationary targets, novelty targets, disappearing targets, and moving targets such as the swinging pendulum. It deals with team shooting, cross shooting matches, rapid-fire shooting, and such rivalry games as "miss and out" and "hit and move back," as well as instructions on shots for competitive shooting of all kinds.

Target Shooting Fine Sport and Game of Skill

One section of the booklet gives information on how to become a National Rifle Association Ranger. It says target shooting is a fine sport and a game of skill, and it encourages new shooters to participate in the Ranger program.

"The shots fired at a bull's-eye on a paper target will give you the truest possible picture of your ability to hit where you aim," it says. "Test yourself by firing ten shots at the bull's-eye. Then keep trying to improve until you are able to qualify as an NRA Ranger -- the first big step on the road to becoming an expert rifleman."

Purpose of National Rifle Association Ranger Program

The Ranger program was inaugurated in the spring of 1947 with a two-fold purpose:

(1) To develop a shooting program that would interest boys and girls, and other new and inexperienced shooters; and to introduce a type of shooting that, by providing recognition of the shooters' initial efforts, should lead to the desire to improve their skill; and

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(2) To impress these new shooters with the necessity of exercising every precaution in choosing safe places to shoot and selecting proper shooting equipment; also to the desirability for supervised shooting to insure the adoption and continued application of safe practices in the handling and use of firearms.

Simple Rules On How To Qualify for NRA Ranger Emblem

"Where to Shoot -- You may fire on any established range indoors or outdoors or in any safe location where you are able to fasten the target a full 50 feet from your shooting position.

"What Kind of Rifle -- You may use any rifle which uses 22-caliber rim-fire ammunition.

"What Position -- You may fire the rifle from any position: prone, sitting, kneeling, or standing.

"How to Score -- Any shot hitting or touching the black bull's-eye counts ten. Any shot touching or within the next ring counts 5, etc. Any shot outside the outer ring counts 0.

"What Score Is Needed -- You must have at least three targets with a score on each of 70 points or more for the ten shots fired."

This program enables boys and girls, men and women, to qualify as NRA Rangers, and furnishes them with simple plans on the construction, maintenance, and operation of 50-foot 22-caliber rifle ranges.

Targets, Booklets, Motion Picture Available Upon Request

The booklet, "More Fun With Your 22 Rifle;" a supply of Ranger targets; as well as a color motion picture, "The Making of A Shooter," dealing with the proper handling of firearms in the field, on the range, and at the traps, can be obtained from the Sporting Arms and Ammunition Manufacturers' Institute, 343 Lexington Avenue, New York 16, N. Y. Later, when the shooter has made the necessary scores on three Ranger targets, he should mail them, with 50 cents, to the National Rifle Association, 1600 Rhode Island Avenue, Washington 6, D. C., and the Ranger emblem will be sent.

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